What is claimed is:

1.   A packet transfer control method in which a transfer
destination can be solved from header information of an IP packet,
5   the method comprising the steps of:

finding, by means of hardware processing, a first route
information which has been address solved by a tree search using
a destination address contained in the header information of the
IP packet;

10   finding a second route information which has been solved
by information, excluding the destination address, that specifies
a packet; and

combining the first and the second route information to
judge the execution of transfer to software.

15

2.   The packet transfer control method according to claim 1,
wherein

the information, excluding the destination address, that
specifies a packet includes a source address, protocol type and
20   port number at TCP/UDP or other packet header information, or
includes identifying information to be given to a packet within
an apparatus.

3.   The packet transfer control method according to claim 1,
25   further comprising the steps of:

giving individual band control conditions to each of the
first and the second route information; and

27

combining the first and the second routes to determine a final band control.

4.   A packet transfer control method in which a transfer destination is solved from header information of an IP packet, the method comprising the steps of:

searching a destination by a tree search, with a destination parameter contained in the header information of the IP packet as a search condition; searching specified flow data by use of a memory that is able to search by hardware whether the specified flow data is in data set for one input data, the specified flow data exchanging route information and information in a protocol that performs network management, from a plurality of parameters contained in the header information of the IP packet; and

combining the destination searched by the tree search and the specified flow data to judge the execution of transfer to software.

5.   The packet transfer control method according to claim 4, wherein the step of searching the specified flow data by use of the memory includes the steps of individually searching the contents of each parameter that can be masked, and searching by a plurality of times decoding conditions of each parameter that can be masked.

6.   The packet transfer control method according to claim 4,

wherein

the data set for one input data are configured to have data and a mask to determine an effective range on a data-to-data basis.

5

7.   A packet transfer control system having an edge node connecting an access network and a core network, the edge node converting an IP packet into a core network address for each destination of the packet so that transfer through the core network

10   can be made via an optimum route, the system comprising:

means for, by hardware processing, finding a first route information which has been address solved by a tree search depending on a destination address contained in header information;

15   means for finding second route information which has been solved by information, excluding a destination address, that specifies a packet; and

means for combining the first and the second route information to judge the execution of transfer to software.

20

8.   The packet transfer control system according to claim 7, wherein

the information, excluding the destination address, that specifies a packet includes a source address, protocol type and

25   port number at TCP/UDP or other packet header information, or includes ID information to be given to a packet within an apparatus.

9.　　　　The packet transfer control system according to claim 8, further comprising:

means for giving individual band control conditions to each of the first and the second route information, the means
5　combining the first and the second routes to determine a final band control.

10.　　　A packet transfer control system having an edge node connecting an access network and a core network, the edge node
10　converting an IP packet into a core network address for each destination of the packet so that transfer through the core network can be made via an optimum route, wherein

the edge node comprises:

means for searching a destination by a tree search, with
15　a destination parameter contained in the header information of the IP packet as a search condition;

a memory (CAM: Content Addressabe Memory) for allowing a hardware search of whether to lie within data set for one input data;

20　　　　means for searching, by use of the memory, a specified flow data exchanging route information and information in a protocol that performs network management, from a plurality of parameters contained in the header information of the IP packet; and

25　　　　means for combining the destination searched by the tree search and the specified flow data to judge the execution of transfer to software.

11.   The packet transfer control system according to claim 10,

wherein the means for searching the specified flow data by use of

the memory includes means for individually searching the contents

5 of each parameter that can be masked, and means for searching by

a plurality of times decoding conditions of each parameter that

can be masked.

12.   The packet transfer control system according to claim 10,

10 wherein

        the data set for one input data are configured to have

data and a mask to determine an effective range on a data-to-data

basis.